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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,367	10/08/2003	Swaminathan (Sam) Sivakumar	10559-864001-P17312	7827
20985	7590	11/04/2004	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			TAT, BINH C	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/682,367

Applicant(s)

SIVAKUMAR ET AL.

Examiner

Binh C. Tat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application 10/682367 file on 10/08/03.

Claim 1-23 remain pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Broeke et al.

(US Patent 2004/0010770).

3. As to claims 1 (method), 12 (article), and 17 (apparatus), Broeke et al. teach a method comprising: decomposing a first mask pattern including a plurality of features into two or more second mask patterns, each of said second mask patterns including a portion of said plurality of features (see fig 1 page 3 paragraph 0028 and paragraph 0034 and paragraph 0038).

4. As to claim 2, 13, and 18-20 Broeke et al. teach wherein said decomposing comprises: assigning different identifiers to different groups of features in the first mask pattern (see fig 1 page 3 paragraph 0028 and paragraph 0034).

5. As to claim 3, 14 and 21 Broeke et al. teach wherein said assigning comprises assigning different identifiers to adjacent features (see page 1 paragraph 0002).

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6. As to claim 4, 15 and 22 Broeke et al. teach wherein assigning different identifiers comprises assigning different colors to different features in the first mask pattern (see fig 1 page 3 paragraph 0029 and paragraph 0034).
7. As to claim 5, 16 and 23 Broeke et al. teach wherein each of the two or more mask patterns includes features in a corresponding one of the different groups (see fig 1 page 3 paragraph 0029 and paragraph 0034 and summary).
8. As to claim 6, Broeke et al. teach further comprising: generating two or more masks, each of said masks including a corresponding one of the two or more second mask patterns (see fig 1 page 3 paragraph 0028 and paragraph 0034 and paragraph 0038).
9. As to claim 7, Broeke et al. teach further comprising: transferring the first mask pattern to a photoresist using the two or more masks (see paragraph 0028-0032).
10. As to claim 8, Broeke et al. teach wherein said transferring comprises exposing the photoresist to each of said two or more masks (see paragraph 0028-0032 and background).
11. As to claim 9, Broeke et al. teach wherein the first mask pattern comprises a mask pattern corresponding to a contact layer (see paragraph 0028-0032 and summary).
12. As to claim 10, Broeke et al. teach wherein the pitch of a second mask pattern is approximately two or more times greater than a pitch of the first mask pattern (see paragraph 0029).
13. As to claims 11, Broeke et al. teach wherein a pitch of the first mask pattern exceeds a resolution limit of an imaging system, and wherein a pitch of each of the two or more second mask patterns is within the resolution limit of the imaging system (see paragraph 0035-0039).

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Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh C. Tat whose telephone number is (571) 272-1908. The examiner can normally be reached on 7:30 - 4:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew Smith can be reached on (571) 272-1907. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-1908 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Binh Tat
Art unit 2825
October 29, 2004

Thuan Do
THUAN DO
Primary examiner
10/30/2004